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INFORMATION REPORT · INFORMATION REPORT

CENTRAL INTELLIGENCE AGENCY

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COUNTRY East Germany

REPORT

SUBJECT Freighter Type IV (diagram of engine room + boiler room. defects in engines, electronic equipments)

DATE DISTR. 15 NOV 1961

NO. PAGES 2

REFERENCES RD

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THIS IS UNEVALUATED INFORMATION. SOURCE GRADINGS ARE DEFINITIVE. APPRAISAL OF CONTENT IS TENTATIVE.

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2 The freighters HALLE and LEIPZIG of Type IV, built by VEB Warnowwerft Warnemuende, are described as follows:

	HALLE	LEIPZIG
a. Speed	14.5 km (sic)	15.5 km (sic)
b. Fuel consumption	170 g/B.H.P.hr	138 g/B.H.P.hr
c. Lubricant consumption	3.8 g/B.H.P.hr	1 g/B.H.P.hr

d. Main engines: light-metal piston

The main defect of these engines is the cracking (Reissen) of the base plate of the main bearing block; this happened on the BERLIN, DRESDEN, and MAGDEBURG. One engine had to be replaced on the BERLIN. The replacement of a main engine probably will be necessary aboard the DRESDEN.

These engines develop an embarrassingly loud noise (100 to 115 decibel), which is caused by the exhaust-gas-turbo sets arranged at the same level as the central operation platform in the engine room.

e. The auxiliary engines frequently have defects in the main bearings.

f. The electric motors are usually of good quality. However, the control mechanism of the luffing cranes is very sensitive.

g. Pumps: the self-aspirating pumps have cavitation defects. The multi-purpose freighters, presumably of type IX, will not

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be equipped with centrifugal pumps, which serve as drainage and ballast pumps, but with piston pumps.

h. The separators are insufficient and too small. The heating system of the separators is too primitive. The rubber packings are not oil-resistant.

i. The steam turbine which propels the generator, as well as the gearing system, is safe to operate.

j. Deck auxiliaries: On board of each ship are 14 electrically driven winches.
The ship is equipped with 2 luffing cranes, one forward for hatch 1 and one aft for hatch 5.
In addition to these devices, the ship has 14 derricks fixed to 10 posts, and one heavy derrick which is fixed to the aft superstructure and serves the hatches 3 and 4 of the ship.

k. The radio is a 800-W-transmitter which was manufactured by a factory in Berlin-Koepnick.
Because of defects in the transmitting tubes, the transmitter is not used to full capacity.

l. The radar equipment was supplied by the USSR. Defects in tubes and condensers have often brought the operation of the equipment to a standstill. The terms of the guarantee given by the Soviet suppliers provide that the device can be in continuous use for a period of only 20 minutes.

1 Comment: The statements on the fuel and lubricant consumption (paragraphs 2 and 3) deviate from each other considerably even though it is the same type of ship. This can be attributed to the different conditions under which these measurements were taken.

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Attachments: Two diagrams of the engine room and the boiler room of the Type IV freighter with keys to the diagrams (5 pages)

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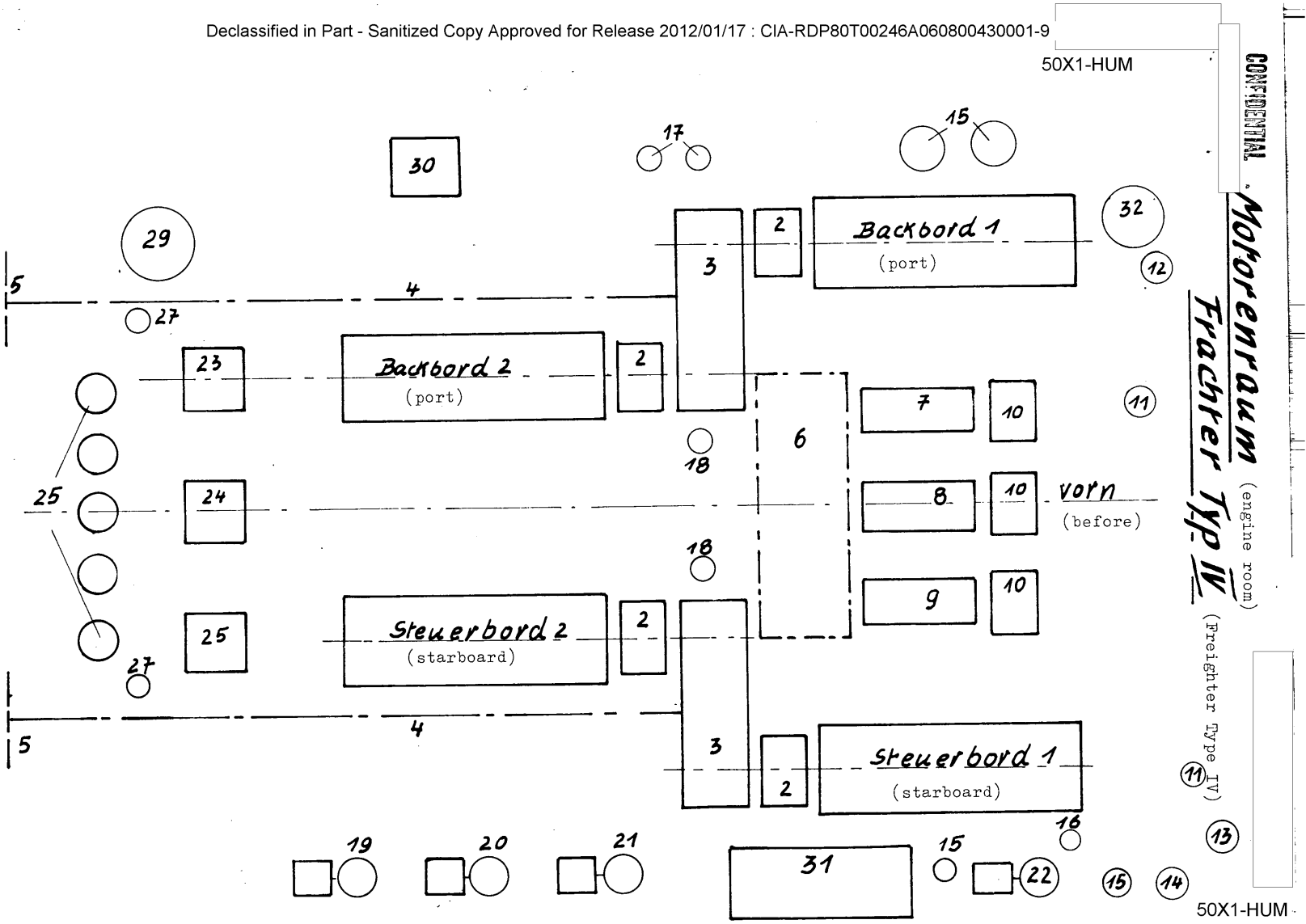

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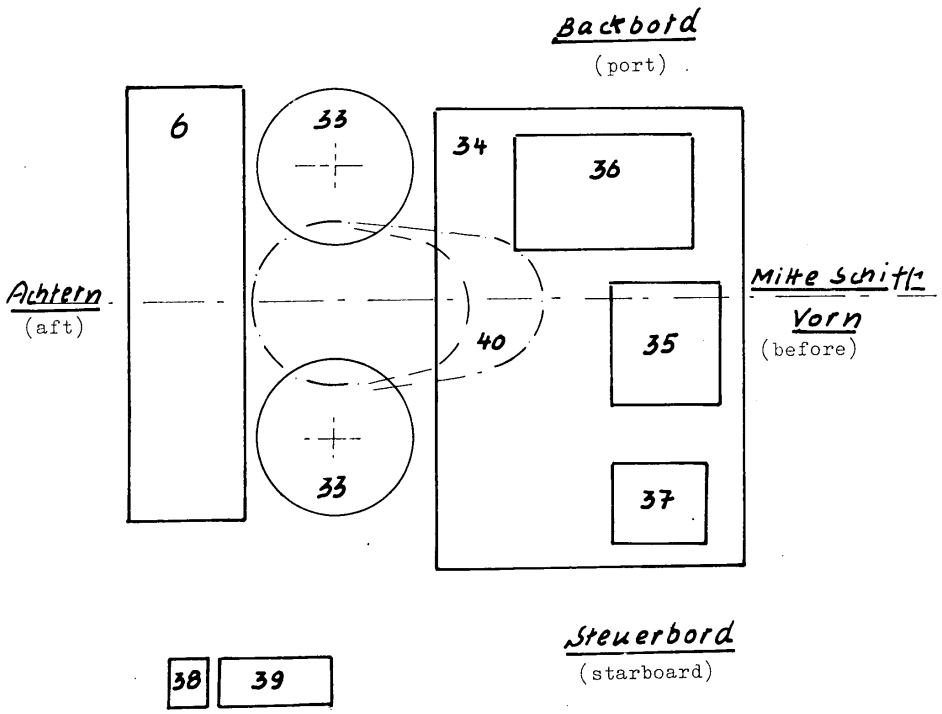
Hesselraum Frachter Typ IV (boiler room)

(Freighter Type IV)



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Annex 3

Key to the Plans of the Engine Room and the Boiler Room

Number	Object
1	4 diesel engines main engines type 8 DV 66 Au manufacturers: VEB MH (machine construction Halberstadt) performance: 1,800 B.H.P. with 250 rpm 1,400 B.H.P. with 230 rpm ignition pressure: about 60 at final compression pressure: 37 to 38 at stroke: 660 mm The charging is done by an exhaust-driven supercharger manufactured by an unknown factory in Bannewitz.
2	4 Induction clutches manufacturers: VEB Elmo (factory for electro engines) Dessau nominal excitation: 80 to 90 A over excitation: 150 A electrical tension: 220 V kind of current: direct current
3	Propeller shaft gearing manufacturers: VEB Abus, Dessau reduction gear: 1:2.36
4	2 Propeller shafts diameter: about 350 mm number of revolutions: 98 rpm
5	2 Propellers number of wings: 4 ascent of wings: 5.25 width of propeller blade: narrow blades diameter of propeller: about 3.2 m
6	Remote control stand
7,8,9	Auxiliary diesel I, II, III type: 6 DV 136 performance: 300 HP number of revolutions: 500 rpm final compression pressure: about 40 at ignition pressure: about 54 at
10	Generators to 7,8, and 9 manufacturer: VEB Elmo, Dessau electrical tension: 220 V amperage: about 800 A, at cruising speed, however, only about 600 A kind of current: direct current

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Number	Object
11	2 lubricating oil pumps
12	main drainage pump self-aspirating pump type: 100 SW 200/90 A manufacturer: VEB Pumpenwerk Erfurt The driving motor was manufactured by VEB Elmo, Dessau.
13	Auxiliary drainage pump type: 60 SW 200/90 A manufacturer and driving motor: see 12
14	Fire-extinguishing pump manufacturer and electro motor: see 12
15	3 cooling water pumps manufacturer and driving motor: see 12
16	Diesel oil pump self-aspirating pump type: 80 SW 200/90 A manufacturer and driving motor: see 12
17	2 oil transfer pumps geared pumps driving motors: see 12
18	2 dirty-oil pumps driving motors: see 12
19	Separator I (diesel oil separator) manufacturer: an unknown factory in Artern built as milk-separator
20	Separator II used either as separator for diesel oil or for gear oil manufacturer: see 19
21	Separator III lubricating oil separator manufacturer: see 19
22	Separator IV lubricating oil separator manufacturer: see 19
23,24,25	Compressor I, II, III two-stage piston compressor with intermediate cooling final compression pressure: 30 at manufacturer: unknown factory in Leipzig

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Number	Object
26	5 starting-air bottles
27	2 lubricating oil pumps geared twin pumps
28	washing water hydrofor
29	the sea water hydrofor was built by VEB Warnow Shipyard, Warnemuende
30	evaporator (pressure evaporator)
31	condenser manufactured by VEB EKM Goerlitz
32	oil separator for bilge water manufactured by VEB Warnow-Shipyard, Warnemuende
33	2 La Mont-boilers manufactured by VEB Warnow-Shipyard, Warnemuende
34	boiler room
35	auxiliary boiler wet steam boiler for operation in the harbor performance: 2 t/h manufactured by VEB Warnow-Shipyard, Warnemuende the boiler is equipped with a rotary burner system
36	exhaust-gas collecting-tank
37	condensation tank
38	steam turbine for generator (39) steam temperature: 230° C number of revolutions: about 400 rpm geared turbine manufacturer of turbine and gear: VEB Turbinenbau, Dresden
39	generator electrical tension: 220 V amperage: 1500 A kind of current: direct current number of revolutions: 1500 rpm manufactured by VEB Elmo, Dessau
40	stack

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